

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Monty Krieger, Susan L. Acton and Alan M. Pearson

Serial No.: 0

08/765,108

Art Unit:

1812

Filed:

June 19, 1995

Examiner:

J. Ulm

For:

CLASS B1 AND C1 SCAVENGER RECEPTORS

RECEIVED

Assistant Commissioner for Patents Washington, D.C. 20231

MAY - 5 1998

MATRIX CUBRANER
SERVICE CENTER

#### INFORMATION DISCLOSURE STATEMENT

Sir:

Pursuant to the duty of disclosure under 37 C.F.R. §1.56, Applicants cite the following publications which are listed on the enclosed twelve pages of form PTO-1449. The documents marked with an asterisk (\*) were cited in the parent and foreign applications. Pursuant to 37 C.F.R. 1.98(d), copies of the marked publications are not enclosed. However, copies of these documents will be made available to the Examiner upon request.

Applicants believe that no fee is required for consideration of this Information Disclosure Statement. However, if a fee is required, the Assistant Commissioner is authorized to charge any fee to Deposit Account No. 01-2507.

#### U.S. Patents

Number	Issue Date	<u>Patentee</u>	Class/Subclass
* 3,625,214	12-07-1971	Higuchi	128/160
* 4,244,946	01-13-1981	Rivier, et al.	424/177
* 4,305,872	12-15-1981	Johnston, et al.	260/112.5 R
494134.1			MIT 6620 CIP

MIT 6620 CIP 20220/422

Information Disclosure Statement

* 4,316,891	02-23-1982	Guillemin, et al.	424/177
* 4,629,784	12-16-1986	Stammer	530/328
4,789,734	12-06-1988	Pierschbacher	530/395
* 4,792,525	12-20-1988	Ruoslahti, et al.	435/240.243
* 4,868,116	09-19-1989	Morgan, et al.	435/240.2
* 4,906,474	03-06-1990	Langer, et al.	424/428
* 4,925,673	05-15-1990	Steiner, et al.	424/455
* 4,980,286	12-25-1990	Morgan, et al.	435/172.3

## **Foreign Patents**

Number	Publication Date	<u>Patentee</u>	Country/Region
WO 90/05748	05-31-1990	Massachusetts Institute of Technological	PCT ogy
WO 93/01286	01-21-1993	Massachusetts Institute of Technology	PCT egy
JP, A, 05/192179		•	Japan
JP, A, 03/290184			Japan

## **Publications**

<sup>\*</sup> ABRAMS, et al., "Macrophages in *Drosophila* embryos and L2 cells exhibit scavenger receptor-mediated endocytosis," *Proc. Natl. Acad. USA* 89:10375-10379 (1993).

- \* ABUMRAD, et al., "Cloning of a Rat Adipocyte Membrane Protein Implicated in Binding or Transport of Long-chain Fatty Acids That is Induced during Preadipocyte Differentiation," J. Biol. Chem. 268:17665-17668 (1993).
- \* ACTON, et al., "The Collagenous Domains of Macrophage Scavenger Receptors and Complement Component C1g Mediate Their Similar, But Not Identical, Binding Specificities for Polyanionic Ligands," *J. Biol. Chem.* 268:3530-3537 (1993).
- \* ACTON, et al., "Expression Cloning of SR-BI, a CD36-related Class B Scavenger Receptor," J. Biol. Chem. 269(33):21003-21009 (1994).
- \* AGRAWAL, et al., "Oligodeoxynucleoside phosphoramidates and phosphorothioates as inhibitors of human immunodeficiency virus," *Proc. Natl. Acad. Sci. USA*-85:7079-7083 (1988).
- \* ARAI, et al., "Multiple Receptors for Modified Low Density Lipoproteins in Mouse Peritoneal Macrophages: Different Uptake Mechanisms for Acetylated and Oxidized Low Density Lipoproteins," *Biochem. Biophys. Res. Commun.* 159:1375-1382 (1989).
- \* ARUFFO, et al., "Molecular cloning of a CD28 cDNA by a high-efficiency COS cell expression system," *Immunology* 84:8573-8577 (1987).
- \* ASCH, et al., "Isolation of the Thrombospondim Membrane Receptor," J. Clin. Invest. 79:1054-1061 (1987).
- \* ASHKENAS, et al., "Structures and high and low affinity ligand binding properties of murine type I and type II macrophage scavenger receptors," *J. Lipid Res.* 34:983-1000 (1993).
- \* ASKEW, et al., "Molecular Recognition with Convergent Functional Groups, Synthetic and Structural Studies with a Model Receptor for Nucleic Acid Components," *J. Am. Chem. Soc.* 111:1082-1090 (1989).
- \* BALDINI, et al., "Cloning of a Rab3 isotype predominately expressed in adipocytes," *Proc. Natl. Acad. Sci. USA* 89:5049-5052 (1992).
- \* BASU, et al., "Independent Pathways for Secretion of Cholesterol and Apolipoprotein E by Macrophages," *Science* 219:871-873 (1983).

- \* BICKEL, et al., "Rabbit Aortic Smooth Muscle Cells Express Inducible Macrophage Scavenger Receptor Messenger RNA That is Absent from Endothelial Cells," *J. Clin. Invest.* 90:1450-1457 (1992).
- \* BLUME, et al., "Triple helix by purine-rich oligonucleotides targeted to the human dihydrofolate reductase promoter," *Nucl. Acids Res.* 20:1777-1784 (1992).
- \* BROWN, et al., "Lipoprotein Metabolism in the Macrophage: Implications for Cholesterol Deposition in Atherosclerosis," *Annu. Rev. Biochem.* 52:223-261 (1983).
- \* CALVO, et al., "Identification, Primary Structure, and Distribution of CLA-1, a Novel Member of the CD36/LIMPHII Gene\_Family," J. Biol. Chem. 268 (25):18929-18935 (1993).
- \* CHARRON, et al., "A glucose transport protein expressed predominately in insulin-responsive tissues," *Proc. Natl. Acad. Sci. USA* 86:2535-2539 (1989).
- \* CHEN, et al., "NPXY, a Sequence Often Found in Chyoplasmic Tails, is Required for Coated Pit-mediated Internalization of the Low Density Lipoprotein Receptor," *J. Biol. Chem.* 265:3116-3123 (1990).
- \* CLACKSON, T., et al., "Making antibody fragments using phage display libraries," *Nature* 352:624-688 (1991).
- \* COONEY, et al., "Site-Specific Oligonucleotide Binding Represses Transcription of the Human *c-myc* Gene In Vitro," *Science* 241, 456-459 (1988).
- \* CROOKE, "Progress toward oligonucleotide therapeutics: pharmacodynamic properties," FASEB J. 7:533-539 (1993).
- \* CULLEN, "Use of Eukaryotic Expression Technology in the Functional Analysis of Cloned Genes," *Methods in Enz.* 152:684-704 (1987).
- \* DAUGHERTY, et al., "Polymerase chain reaction facilitates the cloning, CDR-grafting and rapid expression of a murine monoclonal antibody directed against the CD18 component of leukocyte integrins," *Nucl. Acids Res.* 19:2471-2476 (1991).
- DE RIJKE, et al., "Binding characteristics of scavenger receptors on liver endothelial and Kupffer cells for modified low-density lipoproteins," *Biochem. J.* 304:69-73 (1994).

- \* DOI, et al., "Charged Collagen Structure Mediates the Recognition of Negativity Charged Macromolecules by Macrophage Scavenger Receptors," J. Biol. Chem. 268:2126-2133 (1993).
- \* DUVAL-VALENTIN, et al., "Specific inhibition of transcription by triple helix-forming oligonucleotides," *Proc. Natl. Acad. Sci. USA* 89:504-508 (1992).
- \* ELLINGTON, et al., "Selection *in vitro* of single-stranded DNA molecules that fold into specific ligand-binding structures," *Nature* 355:850-852 (1992).
- \* ENDEMANN, et al., "CD36 is a Receptor for Oxidized Low Density Lipoprotein," J. Biol. Chem. 268:11811-11816 (1993).
- \* FAUST, et al., "Expression of Specific High Capacity Mēyālonate Transport in a Chinese Hamster Ovary Cell Variant," J. Biol. Chem. 262:1996-2004 (1987).
- \* FRASER, et al., "Divalent cation-independent macrophage adhesion inhibited by monoclonal antibody to murine scavenger receptor," *Nature* 364:343-346 (1993).
- \* FREEMAN, et al., "Expression of type I and type II bovine scavenger receptors in Chinese hamster ovary cells: Lipid droplet accumulation and nonreciprocal cross competition by acetylated and oxidized low density lipoprotein," *Proc. Natl. Acad. Sci. USA* 88:4931-4935 (1991).
- FUKASAWA, et al., "Chinese Hamster Ovary Cells Expressing a Novel Type of Acetylated Low Density Lipoprotein Receptor," J. of Biol. Chem. 270(4):1921-1927 (1995).
- \* GOLDSTEIN, et al., "Receptor-Mediated Endocytosis of Low-Density Lipoprotein in Cultured Cells," *Methods Enzymol.* 98:241-260 (1993).
- \* GOLDSTEIN, et al., "Binding site on macrophages that mediates uptake and degradation of acetylated low density lipoprotein, producing massive cholesterol deposition," *Proc. Natl. Acad. Sci. USA* 76:333-337 (1979).
- \* GREENWALT, et al., "Membrane Glycoprotein CD36: A Review of Its Roles in Adherence, Signal Transduction, and Transfusion Medicine," *Blood* 80:1105-1115 (1992).
- \* GREGORIADIS, G., Chapter 14. "Liposomes", <u>Drug Carriers in Biology and Medicine pp.</u> 287-341 (Academic Press, 1979)

- \* GRIGORIEV, et al., "A Triple Helix-forming Oligonucleotide-Intercalator Conjugate Acts as a Transcriptional Repressor via inhibition of NF  $_{\rm K}B$  Binding of Interleukin-2 Receptor  $\alpha$ -Regulatory Sequence," *J. Biol. Chem.* 267:3389-3395 (1992).
- \* HABERLAND, et al., "Two Distinct Receptors Account for Recognition of Maleyl-Albumin in Human Monocytes during Differentiation In Vitro," J. Clin. Inves. 77:681-689 (1986).
- \* HABERLAND, et al., "Role of the Maleyl-Albumin Receptor in Activation of Murine Peritoneal Macrophages In Vitro," *J. Immunol.* 142:855-862 (1989).
- \* HART, et al., "A *Drosophila* Gene Encoding an Epithelial Membrane Protein with Homology to CD36/LIMP II," *J. Mol. Biol.* 234:249-253 (1993).
- \* HERZ, et al., "Surface location and high affinity for calcium of a 500-kd liver membrane protein closely related to the LDL-receptor suggest a physiological role as lipoprotein receptor," *EMBO J.* 7:4119-4127 (1988).
- \* HOLT, et al., "An Oligomer Complementary to *c-myc* mRNA Inhibits Proliferation of HL-60 Promyelocytic Cells and Induces Differentiation," *Mol. Cell. Biol.* 8:963-973 (1988).
- \* HORIUCHI, et al., "Scavenger Function of Sinusoidal Liver Cells: Acetylated Low-density Lipoprotein is Endocytosed via a Route Distinct from Formaldehyde-treated Serum Albumin," *J. Biol. Chem.* 259:53-56 (1985).
- HUANG, et al., "Membrane glycoprotein IV (CD36) is physically associated with the Fyn, Lyn, and Yes protein-tyrosine kinases in human platelets," *Proc Natl. Acad. Sci. USA* 88(17):7844-7848 (1991).
- \* HUNT, et al., "Chacterization and sequence of a mouse hsp70 gene and its expression in mouse cell lines," *Gene* 87:199-204 (1990).
- \* ITAKURA, et al., "Synthesis and use of synthetic oligonucleotides," Ann. Rev. Biochem. 53:323-356 (1984).
- \* INABA, et al., "Macrophage Colony-stimulating Factor Regulates Both Activities of Neural and Acidic Cholesteryl Ester Hydrolases in Human Monocyte-derived Macrophages," *J. Clin. Invest.* 92(2):750-757 (1993).

Information Disclosure Statement

- \* KABAT, et al., Sequences of Proteins of Immunological Interest, 4th Ed. (U.S. Dept. Health and Human Services, Bethesda, MD, 1987)
- \* KINGSLEY, et al., "Receptor-mediated endocytosis of low density lipoprotein: Somatic cell mutants define multiple genes required for express of surface-receptor activity," *Proc. Natl. Acad. Sci. USA* 81:5454-5458 (1984).
- \* KINGSLEY, et al., "DNA-Mediated Transfer of a Human Gene Required for Low-Density Lipoprotein Receptor Expression and for Multiple Golgi Processing Pathways," *Mol. Cell. Biol.* 6:2734-2737 (1986).

KOBZIK, "Lung Macrophage Uptake of Unopsonized Environmental Particles," J. of Immunol. 155(1):367-376 (1995).

- \* KODAMA, et al., "Type I macrophage scavenger receptor contains  $\alpha$ -helical and collagen-like coiled coils," *Nature* 343:531-535 (1990).
- \* KRIEGER, "Molecular Flypaper and atherosclerosis: structure of the macrophage scavenger receptor," *Trends Biochem. Sci.* 17:141-146 (1992).

KRIEGER, et al., <u>Cold Spring Harbor Symposia on Quantitative Biology</u> Vol. LVII, 605-609 (1992).

KRIEGER, "Molecular Flypaper, Host Defense, and Atherosclerosis," J. Biol. Chem. 268(7):4569-4572 (1993).

- \* KRIEGER, et al., "Structures and Functions of Multiligand Lipoprotein Receptors: Macrophage Scavenger Receptors and LDL Receptor-Related Protein (LRP)," *J. Annu. Rev. Biochem.* 63:601-637 (1994).
- \* KRIEGER, et al., "Reconstituted Low Density Lipoprotein," J. Supra. Struct. 10:467-478 (1979).
- \* KRIEGER, et al., "Isolation of Chinese Hamster Cell Mutants Defective in the Receptor-mediated Endocytosis of Low Density Lipoprotein," J. Mol. Biol. 150:167-184 (1981).
- \* KRIEGER, et al., "Amphotericin B selection of mutant Chinese hamster cells with defects in the receptor-mediated endocytosis of low density lipoprotein and cholesterol biosynthesis," *Proc. Natl. Acad. Sci. USA* 80:5607-5611 (1983).

- \* KRIEGER, "Contemplation of Mutations in the LDL Pathway of Receptor-Mediated Endocytosis by Cocultivation of LDL Receptor-Defective Hamster Cell Mutants," *Cell* 33:413-422 (1983).
- \* KRIEGER, "Reconstitution of the Hydrophobic Core of Low-Density Lipoprotein," *Meth. Enzymol.* 128:608-613 (1986).
- \* LEWIS, et al., "Automated site-directed drug design: the concept of spacer skeletons for primary structure generation," *Proc. R. Soc. Lond.* 236, 125-140 and 141-162 (1989).
- \* LOWRY, et al. "Protein Measurement with the Folin Phenol Reagent," J. Biol. Chem. 193:265-275 (1951).
- LUOMA, et al., "Expression of  $\alpha_2$ -Macroglobuli Receptor/Low Density Lipoprotein Receptor-related Protein and Scavenger Receptor in Human Atherosclerotic Lesions," *J. Clin. Inv.* 93(5):2014-2021 (1994).
- \* MAHER, et al., "Inhibition of DNA Binding Proteins by Oligonucleotide-Directed Triple Helix Formation," *Science* 245:725-730 (1989).
- \* MATSUMOTO, et al., "Human macrophage scavenger receptors: Primary structure expression, and localization in atherosclerotic lesions," *Proc. Natl. Acad. Sci. USA* 87:9133-9137 (1990).
- \* McKINALY, et al., "Rational design of antiviral agents," Annu. Rev. Pharmacol. Toxiciol. 29:111-122 (1989).
- \* MERRIFIELD, "Solid Phase Peptide Synthesis I. The Synthesis of a Tetrapeptide," J. Am. Chem. Soc. 85:2149-2154 (1964).
- \* MOESTRUP, et al., Distribution of the  $\alpha_2$ -macroglobulin receptor/low density lipoprotein receptor-related protein in human tissues," Cell Tissue Res. 269:375-382 (1992).
- \* MULLIGAN, "The Basic Science of Gene Therapy," Science 260:926-932 (1993).
- \* NAGELKERKE, et al., "In Vivo and in Vitro Uptake and Degradation of Acetylated Low Density Lipoprotein by Rat Liver Endothelial, Kupffer, and Parenchymal Cells," J. Biol. Chem.

Information Disclosure Statement

258:12221-12227 (1983).

- \* NAITO, et al., "Tissue Distribution Intracellular Localization, and In Vitro Expression of Bovine Macrophage Scavenger Receptors," Am. J. Pathol. 139:1411-1423 (1991).
- \* NARANG, et al., in "Chemical Synthesis of Deoxyoligonucleotides by the Modified Triester Method," *Methods Enzymol.* 65:610-620 (1980).
- \* OCKENHOUSE, et al., Activation of Monocytes and Platelets by Monoclonal Antibodies or Malaria-infected Erythocytes Binding to the CD36 Surface Receptor in vitro," *J. Clin. Invest.* 84:468-475 (1989).
- \* OFFENSPERGER, et. al., "In vivo inhibition of duck hepatitis B virus replication and gene expression by phosphorothioate modified antisense oligodeoxynucleotides," *EMBO J.* 12:1257-1262 (1993).
- \* OQUENDO, et al., "CD36 Directly Mediates Cytoadherence of Plasmodium falciparium Parasitized Erythocites," Cell 58:95-101 (1989).
- \* ORSON, et al., "Oligonucleotide inhibition of IL2R $\alpha$  mRNA transcription promoter region collinear triplex formation in lymphocytes," *Nucl. Acids Res.* 19:3435-3441 (1991).
- \* OTTNAD, et al., "Differentiation of binding sites on reconstituted hepatic scavenger receptors using oxidized low-density lipoprotein," *Biochem J.* 281:745-751 (1992).
- \* PEARSON, et al., "Expression cloning of dSR-CI, a class C macrophage-specific scavenger receptor from *Drosphila melanogaster*," *Proc. Natl. Acad. Sci. USA* 92:4056-4060 (1995).
- \* PENMAN, et al., The Type I and Type II Bovine Scavenger Receptors Expressed in Chinese Hamster Ovary Cells are Trimeric Proteins with Collagenous Triple Helical Domains Comprising Noncovalently Associated Monomers and Cys<sup>83</sup>-Disulfide-linked Dimers, " J. Biol. Chem. 266:23985-23993 (1991).
- \* PERRY, et al., "The Use of 3D Modeling Databases for Identifying Structure Activity Relationships," <u>OSAR: Quantitative Structure-Activity Relationships in Drug Design pp.</u> 189-193 (Alan R. Liss, Inc. 1989).

Information Disclosure Statement

- \* PITAS, et al., "Uptake of Chemically Modified Low Density Lipoproteins In Vivo Is Mediated by Specific Endothelial Cells," J. Cell. Biol. 100:103-117 (1985).
- \* POSTEL, et al., "Evidence that a triplex-forming oligodeoxyribonucleotide binds to the c-myc promoter in HeLa cells, thereby reducing *c-myc* mRNA levels," *Proc. Natl. Acad. Sci. USA* 88: 8227-8231 (1991).
- \* PREDESCU, et al., "Binding and Transcytosis of Glycoalbumin by the Microvascular Endothelium of the Nature Myocardium: Evidence that Glycoalbumin Behaves as a Bifunctional Ligand," J. Cell Biol. 107:1729-1738 (1988).
- \* RIGOTTI, et al., "The Class-B Scavenger Receptors SR-BI and CD36 are Receptors for Anionic Phospholipids," J. Biol. Chem. 270:1-4 (1995).

RIGOTTI, et al., "The Class B Scavenger Receptors SR-BI and CD36 Are Receptors for Anionic Phospholipids," J. Biol. Chem. 270(27):16221-16224 (1995).

- \* RIPKA, "Computers picture the perfect drug," New Scientist 54-57 (June 16, 1988).
- \* ROHRER, et al., "Coiled-coil fibrous domains mediate ligand binding by macrophage scavenger receptor type II," *Nature* 343:570-572 (1990).
- \* ROUVINEN, et al., "Computer-aided Drug Design," Acta Pharmaceutica Fennica 97:159-166 (1988).

SAMBROOK, Fritsch, and Maniatis. <u>Molecular Cloning: A Laboratory Manual</u>, Second Edition, Cold Spring Harbor, NY, Cold Spring Harbor Laboratory Press (1989) (Table of Contents only).

- \* SARIN et al., "Inhibition of acquired immunodeficiency syndrome virus by oligodeoxynucleoside methylphosphonates," *Proc. Natl. Acad. Sci. USA* 85:7448-7451 (1989).
- \* SAVILL, et al., "Macrophage Vitronectin Receptor CD36 and Thrombospondin Cooperate in Recognition of Neutrophlis Undergoing Programmed Cell Death," *Chest* 99:6S-7S (suppl) (1991).
- \* SCHAUB, et al., "Recombinant Human Macrophage Colony-Stimulating Factor Reduces Plasma Cholesterol and Carrageenee Granuloma Foam Cell Formation in Watanabe Heritable

Information Disclosure Statement

Hyperlipidemic Rabbits," Arterioscler. Thromb. 14(1):70-76 (1994).

- \* SCHNITZER, et al., "Preferential Interaction of Albumin-binding Proteins, gp30 and gp18, with Conformationally Modified Albumins," J. Biol. Chem. 267:24544-24553 (1992).
- \* SCRIVER, et al., Eds., in <u>The Metabolic and Molecular Bases of Inherited Disease</u>, Vol. 11, 7th Ed., pp. 2033; 2060-2061, New York, McGraw Hill.
- \* SEGE, et al., "Characterization of a Family of Gamma-Ray-Induced CHO Mutants Demonstrates that the IdIA Locus is Diploid and Encodes the Low-Density Lipoprotein Receptor," *Mol. Cell. Biol.* 6:3268-3277 (1986).
- \* SEGE, et al., "Expression and regulation of human low-density lipoprotein receptors in Chinese hamster ovary cells," *Nature* 307:742-745 (1984).
- \* SHAW, et al., "Modified deoxyoligonucleotides stable to exonuclease degradation in serum," *Nucleic Acids Res.* 19:747-750 (1991).
- \* SPARROW, et al., "A Macrophage Receptor That Recognizes Oxidized Low Density Lipoprotein but Not Acetylated Low Density Lipoprotein," *J. Biol. Chem.* 264:2599-2604 (1989).
- \* STANTON, et al., "A Macrophage Fe Receptor for IgG Is Also a Receptor for Oxidized Low Density Lipoprotein," J. Biol. Chem. 267:22446-22451 (1992).
- \* STEINBERG, et al., "BEYOND CHOLESTEROL: Modifications of Low-Density Lipoprotein That Increase Its Atherogenicity," N. Engl. J. Med. 320:915-924 (1989).
- \* STENT, G.S., et al., Molecular Genetics, pp. 213-219 (1971).
- SWIDA, et al., "Glue protein genes in *Drosophila virilis*: their organization, developmental control of transcription and specific mRNA degradation," *Development* 108(2):269-280 (1990).
- \* SZOSTAK, "In Vitro Genetics," TIBS 19:89-93 (1992).
- \* TANDON, et al., "Identification of Glycoprotein IV (CD36) as a Primary Receptor for Platelet-Collagen Adhesion," J. Biol. Chem. 264:7576-7583 (1989).

- \* VANDEPOL, et al., "Clinical Applications of Recombinant Macrophage-Colony Stimulating Factor (rhM-CSF)," *Biotech Therap.* 2:231-239 (1991).
- \* VEGA, et al., "Cloning Sequences and Expression of a cDNA Encoding Rat LIMP II, a Novel 74-kDa Lysosomal Membrane Protein Related to the Surface Adhesion Protein CD36," *J. Biol. Chem.* 266:16818-16824 (1991).
- \* VIA, et al., "Identification and density dependent regulation of the AC-LDL Receptor in normal and transformed bovine aortic endothelial cells (BAEC)," *The FASEB J.* 6:A371, #2135 (1992).
- \* VILLASCHI, et al., "Binding and Uptake of Native and Glycosylated Albumin-Gold Complexes in Perfused Rat Lungs," *Microvasc. Res.* 32:190-199 (1986).
- \* WICKSTROM, et al., "Human promyelocytic leukemia HL-60 cell proliferation and *c-myc* protein expression are inhibited by an antisense pentadecadeoxynucleotide targeted against *c-myc* mRNA," *Proc. Natl. Acad. Sci. USA* 85:1028-1032 (1988).
- \* YOUNG, et al., "Triple helix formation inhibits transcription elongation in vitro," *Proc. Natl. Acad. Sci. USA* 88:10023-10026 (1991).
- \* ZAMECNIK, et al., "Inhibition of replication and expression of human T-cell lymphotropic virus type III in cultured cells by exogenous systhenic oligonucleotides complementary to viral RNA," *Proc. Natl. Acad. Sci.* 83:4143-4146 (1986).
- \* ZAMECNIK, et al., "Inhibition of Rous sarcoma virus replication and cell transformation by a specific oligodeoxynucleotide," *Proc. Natl. Acad. Sci. USA* 75:280-284 (1978).
- \* ZHU, et al., "Systemic Gene Expression AFter Intravenous DNA Delivery into Adult Mice," *Science* 261:209-211 (1993).

U.S.S.N.: 08/765,108

Filed: June 19, 1995

Information Disclosure Statement

Remarks

This statement should not be interpreted as a representation that an exhaustive search

has been conducted or that no better art exits. Moreover, Applicants invite the Examiner to

make an independent evaluation of the cited art to determine its relevance to the subject matter

of the present application. Applicants are of the opinion that their claims patentably distinguish

over the art referred to herein, either alone or in combination.

Respectfully submitted,

Patrea L. Pabst

Reg. No. 31,284

Date: April 27, 1998

ARNALL GOLDEN & GREGORY, LLP

2800 One Atlantic Center

1201 W. Peachtree Street

Atlanta, Georgia 30309-3450

(404) 873-8794

CERTIFICATE OF MAILING (37 CFR 1.8a)

I hereby certify that this Information Disclosure Statement, along with any paper

referred to as being attached or enclosed, is being deposited with the United States Postal

494134.1

MIT 6620 20220/422

Information Disclosure Statement

Service on the date shown below with sufficient postage as first-class mail in an envelope addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.

Jean Wicks

Date: April 27, 1998

Sheet

PTO/SB/08A (10-98 Approved for use through 10/31/99. OMB 0651-0031 Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

The Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number Substitute for form 1449A/PTO

12

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

of

Complete if Known					
Application Number	08/765,108				
Filing Date	June 19, 1995				
First Named Inventor	Monty Krieger, et al.				
Group Art Unit	1812				
Examiner Name	J. Ulm				
Attorney Docket Number	MIT 6620 CIP				

				U.S. PATENT DOCUME	NTS	
Examiner's	Cite	US Patent Number	Document Kind Code <sup>2</sup>	Name of Patentee or Applicant	Date of Cited Document	Pages, Columns, Lines, Where Relevant
Initials*	No.1		(if known)	of Cited Document	MM-DD-YYYY	Passages or Relevant Figures Appear
		* 3,625,214		Higuchi	12-07-1971	
		* 4,244,946		Rivier, et al.	01-13-1981	
		* 4,305,872		Johnston, et al.	12-15-1981	
		* 4,316,891		Guillemin, et al.	02-23-1982	
		* 4,629,784		Stammer	12-16-1986	
		4,789,734		Pierschbacher	12-06-1988	
		* 4,792,525		Ruoslahti, et al.	12-20-1988	
		<u>*4,868,116</u>		Morgan, et al.	09-19-1989	
		* 4,906,474		Langer, et al.	- 03-06-1990	
		* 4,925,673		Steiner, et al.	05-15-1990	
		* 4,980,286		Morgan, et al.	12-25-1990	
		†				
		<del>                                     </del>				
				· · · · · · · · · · · · · · · · · · ·		
		<del> </del>	-00 s			
				*		-
					<u> </u>	

	FOREIGN PATENT DOCUMENTS								
	,	-	Foreign Patent Docu	ment		Date of Publication	Pages, Columns, Lines,		
Examiner's Initials *	Cite No.1	Office <sup>3</sup>	Number <sup>4</sup>	Kind Code⁵ (if known)	Name of Patentee or Applicant of Cited Document	of Cited Document MM-DD-YYYY	Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>	
			WO 90/05748	РСТ	Massachusetts Institute of Technology	05-31-1990			
			WO 93/01286	PCT	Massachusetts Institute of Technology	01-21-1993	·		
			JP, A, 05/192179	Japan					
			JP, A, 03/290184	Japan					
					Ť.				

	·		
Examiner's		Date	
Signature		Considered	

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number 2 See attached Kinds of U.S. Patent Documents. 2 Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). 4 For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. 5 Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. Applicant to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you require to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

tacker the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number Substitute for form 1449A/PTO Complete if Known INFORMATION DISCLOSURE **Application Number** 08/765,108 June 19, 1995 Filing Date STATEMENT BY APPLICANT First Named Inventor Monty Krieger, et al. **Group Art Unit** 1812 (use as many sheets as necessary) **Examiner Name** J. Ulm 12 MIT 6620 CIP Sheet 2 of **Attorney Docket Number** 

		OTHER ART NON PATENT LITERATURE DOCUMENTS	
i	Cite	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the	
xaminer's	No.1	item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s),	Т:
Initials*	No.	publisher, cit and/or country where published	_ '
		* ABRAMS, et al., "Macrophages in <i>Drosophila</i> embryos and L2 cells exhibit scavenger receptor-mediated endocytosis," <i>Proc. Natl. Acad. USA</i> 89:10375-10379 (1993).	
		* ABUMRAD, et al., "Cloning of a Rat Adipocyte Membrane Protein Implicated in Binding or Transport of Long-chain Fatty Acids Tha	
•		is Induced during Preadipocyte Differentiation," <i>J. Biol. Chem</i> . 268:17665-17668 (1993).	
		* ACTON, et al., "The Collagenous Domains of Macrophage Scavenger Receptors and Complement Component C1g Mediate Their Similar, But Not Identical, Binding Specificities for Polyanionic Ligands," <i>J. Biol. Chem.</i> 268:3530-3537 (1993).	
		* ACTON, et al., "Expression Cloning of SR-Bi, a CD36-related Class B Scavenger Receptor," J. Biol. Chem. 269(33):21003-21009 (1994).	
		* AGRAWAL, et al., "Oligodeoxynucleoside phosphoramidates and phosphorothioates as inhibitors of human immunodeficiency virus," <i>Proc. Natl. Acad. Sci. USA</i> 85:7079-7083 (1988).	
		* ARAI, et al., "Multiple Receptors for Modified Low Density Lipoproteins in Mouse Peritoneal Macrophages: Different Uptake Mechanisms for Acetylated and Oxidized Low Density Lipoproteins," <i>Biochem. Biophys. Res. Commun.</i> 159:1375-1382 (1989).	
	*	* ARUFFO, et al., "Molecular cloning of a CD28 cDNA by a high-efficiency COS cell expression system," <i>Immunology</i> 84:8573-8577 (1987).	
		* ASCH, et al., "Isolation of the Thrombospondim Membrane Receptor," J. Clin. Invest. 79:1054-1061 (1987).	
		* ASHKENAS, et al., "Structures and high and low affinity ligand binding properties of murine type I and type II macrophage scavenger receptors," <i>J. Lipid Res.</i> 34:983-1000 (1993).	
		* ASKEW, et al., "Molecular Recognition with Convergent Functional Groups, Synthetic and Structural Studies with a Model Receptor	_
		for Nucleic Acid Components," <i>J. Am. Chem. Soc.</i> 111:1082-1090 (1989).	ľ
,		* BALDINI, et al., "Cloning of a Rab3 isotype predominately expressed in adipocytes," <i>Proc. Natl. Acad. Sci. USA</i> 89:5049-5052 (1992).	

Examiner's	Date	
Signature	Considered	

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>&</sup>lt;sup>1</sup> Unique citation designation number <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you require to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Index the Pa	eperwork Reduction Act of	1995, no person	s are required to respond to a collection of inf	formation unless it contains a valid OMB control number		
587 U.S. PTO	Substitute fo				emplete if Known	
	INFORI	MATIC	N DISCLOSURE	Application Number	08/765,108	
· S	STATE	MENT	BY APPLICANT	Filing Date	June 19, 1995	
	01/11		DI AII LIOAIII	First Named Inventor	Monty Krieger, et al.	
<b>=</b> 2	(use a	as many s	heets as necessary)	Group Art Unit	1812	
<b>≢</b> ♂	,	,		Examiner Name	J. Ulm	
Sheet	3	of	12	Attorney Docket Number	MIT 6620 CIP	

		OTHER ART NON PATENT LITERATURE DOCUMENTS	
		Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the	
Examiner's	Cite	item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s),	
Initials*	No.1	publisher, cit and/or country where published	T
		* BASU, et al., "Independent Pathways for Secretion of Cholesterol and Apolipoprotein E by Macrophages," Science 219:871-873 (1983).	-
		* BICKEL, et al., "Rabbit Aortic Smooth Muscle Cells Express Inducible Macrophage Scavenger Receptor Messenger RNA That is	
		Absent from Endothelial Cells," <i>J. Clin. Invest.</i> 90:1450-1457 (1992).	
		* BLUME, et al., "Triple helix by purine-rich oligonucleotides targeted to the human dihydrofolate reductase promoter," <i>Nucl. Acids Res.</i> 20:1777-1784 (1992).	
		* BROWN, et al., "Lipoprotein Metabolism in the Macrophage: Implications for Cholesterol Deposition in Atherosclerosis," Annu. Rev	-
		Biochem. 52:223-261 (1983).	
		* CALVO, et al., "Identification, Primary Structure, and Distribution of CLA-1, a Novel Member of the CD36/LIMPHII Gene Family," J	
		Biol. Chem. 268 (25):18929-18935 (1993).	
		* CHARRON, et al., "A glucose transport protein expressed predominately in insulin-responsive tissues," <i>Proc. Natl. Acad. Sci. USA</i> 86:2535-2539 (1989).	
		* CHEN, et al., "NPXY, a Sequence Often Found in Chyoplasmic Tails, is Required for Coated Pit-mediated Internalization of the Low Density Lipoprotein Receptor," <i>J. Biol. Chem.</i> 265:3116-3123 (1990).	
		* CLACKSON, T., et al., "Making antibody fragments using phage display libraries," Nature 352:624-688 (1991).	
		* COONEY, et al., "Site-Specific Oligonucleotide Binding Represses Transcription of the Human c-myc Gene In Vitro," Science 241, 456-459 (1988).	
		* CROOKE, "Progress toward oligonucleotide therapeutics: pharmacodynamic properties," FASEB J. 7:533-539 (1993).	
		* CULLEN, "Use of Eukaryotic Expression Technology in the Functional Analysis of Cloned Genes," <i>Methods in Enz.</i> 152:684-704 (1987).	

Examiner's	Date	
Signature	Considered	

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>&</sup>lt;sup>1</sup> Unique citation designation number <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you require to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

4

of

MIT 6620 CIP

Sheet

		•	Patent and Trademark Office: U.S. DEPARTMENT OF COMMERC
the	Paperwork Reduction Act of 1995, no persons are required to respond to a collection of inf	ormation unless it contains a valid OMB control number	
	Substitute for form 1449A/PTO		
		į	Complete if Known
	INFORMATION DISCLOSURE	Application Number	08/765,108
	STATEMENT BY APPLICANT	Filing Date	June 19, 1995
:	O // ( E lo / L	First Named Inventor	Monty Krieger, et al.
1	(use as many sheets as necessary)	Group Art Unit	1812
		Examiner Name	J. Ulm

Attorney Docket Number

12

		OTHER ART NON PATENT LITERATURE DOCUMENTS Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the			
examiner's Initials*	Cite item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), No.1 publisher, cit and/or country where published				
		* DAUGHERTY, et al., "Polymerase chain reaction facilitates the cloning, CDR-grafting and rapid expression of a murine monoclonal antibody directed against the CD18 component of leukocyte integrins," <i>Nucl. Acids Res.</i> 19:2471-2476 (1991).			
		DE RIJKE, et al., "Binding characteristics of scavenger receptors on liver endothelial and Kupffer cells for modified low-density lipoproteins," <i>Biochem. J.</i> 304:69-73 (1994).			
	٠ .	* DOI, et al., "Charged Collagen Structure Mediates the Recognition of Negativity Charged Macromolecules by Macrophage Scavenger Receptors," <i>J. Biol. Chem.</i> 268:2126-2133 (1993).			
		* DUVAL-VALENTIN, et al., "Specific inhibition of transcription by triple-helix-forming oligonucleotides," <i>Proc. Natl. Acad. Sci. USA</i> 89:504-508 (1992).			
		* ELLINGTON, et al., "Selection <i>in vitro</i> of single-stranded DNA molecules that fold into specific ligand-binding structures," <i>Nature</i> 355:850-852 (1992).			
		* ENDEMANN, et al., "CD36 is a Receptor for Oxidized Low Density Lipoprotein," J. Biol. Chem. 268:11811-11816 (1993).			
		* FAUST, et al., "Expression of Specific High Capacity Meyalonate Transport in a Chinese Hamster Ovary Cell Variant," <i>J. Biol. Chem.</i> 262:1996-2004 (1987).			
		* FRASER, et al., "Divalent cation-independent macrophage adhesion inhibited by monoclonal antibody to murine scavenger receptor," <i>Nature</i> 364:343-346 (1993).			
		* FREEMAN, et al., "Expression of type I and type II bovine scavenger receptors in Chinese hamster ovary cells: Lipid droplet accumulation and nonreciprocal cross competition by acetylated and oxidized low density lipoprotein," <i>Proc. Natl. Acad. Sci. USA</i> 88:4931-4935 (1991).			
		FUKASAWA, et al., "Chinese Hamster Ovary Cells Expressing a Novel Type of Acetylated Low Density Lipoprotein Receptor," <i>J. of Biol. Chem.</i> 270(4):1921-1927 (1995).			
		* GOLDSTEIN, et al., "Receptor-Mediated Endocytosis of Low-Density Lipoprotein in Cultured Cells," <i>Methods Enzymol.</i> 98:241-260 (1993).			

Examiner's	Date	
Signature	Considered	

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you require to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>&</sup>lt;sup>1</sup> Unique citation designation number <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant to place a check mark here if English language Translation is attached.

	1
	r

JC5

ந்தி the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number Substitute for form 1449A/PTO

> INFORMATION DISCLOSURE STATEMENT I

BY APPLICANT	Filing Date	June 19, 1995	
DI AII LIOAII	First Named Inventor	Monty Krieger, et al.	
neets as necessary)	Group Art Unit	1812	
	Examiner Name	J. Ulm	

Complete if Known

08/765,108

(use as many she MIT 6620 CIP 5 of 12 **Attorney Docket Number** Sheet

**Application Number** 

		OTHER ART NON PATENT LITERATURE DOCUMENTS	
Examiner's Initials*	Cite No.¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, cit and/or country where published	T²
		* GOLDSTEIN, et al., "Binding site on macrophages that mediates uptake and degradation of acetylated low density lipoprotein, producing massive cholesterol deposition," <i>Proc. Natl. Acad. Sci. USA</i> 76:333-337 (1979).	
		* GREENWALT, et al., "Membrane Glycoprotein CD36: A Review of Its Roles in Adherence, Signal Transduction, and Transfusion Medicine," <i>Blood</i> 80:1105-1115 (1992).	
		* GREGORIADIS, G., Chapter 14. "Liposomes", <u>Drug Carriers in Biology and Medicine</u> pp. 287-341 (Academic Press, 1979).	
		* GRIGORIEV, et al., "A Triple Helix-forming Oligonucleotide-Intercalator Conjugate Acts as a Transcriptional Repressor via inhibition of NF <sub>k</sub> B Binding of Interleukin-2 Receptor <i>a</i> -Regulatory Sequence," <i>J. Biol. Chem.</i> 267:3389-3395 (1992).	-
		* HABERLAND, et al., "Two Distinct Receptors Account for Recognition of Maleyl-Albumin in Human Monocytes during Differentiation In Vitro," <i>J. Clin. Inves.</i> 77:681-689 (1986).	<del></del>
		* HABERLAND, et al., "Role of the Maleyl-Albumin Receptor in Activation of Murine Peritoneal Macrophages In Vitro," <i>J. Immunol.</i> 142:855-862 (1989).	
• • • •		* HART, et al., "A <i>Drosophila</i> Gene Encoding an Epithelial Membrane Protein with Homology to CD36/LIMP II," <i>J. Mol. Biol.</i> 234:249-253 (1993).	•
		* HERZ, et al., "Surface location and high affinity for calcium of a 500-kd liver membrane protein closely related to the LDL-receptor suggest a physiological role as lipoprotein receptor," <i>EMBO J.</i> 7:4119-4127 (1988).	
		* HOLT, et al., "An Oligomer Complementary to <i>c-myc</i> mRNA Inhibits Proliferation of HL-60 Promyelocytic Cells and Induces Differentiation," <i>Mol. Cell. Biol.</i> 8:963-973 (1988).	
		* HORIUCHI, et al., "Scavenger Function of Sinusoidal Liver Cells: Acetylated Low-density Lipoprotein is Endocytosed via a Route Distinct from Formaldehyde-treated Serum Albumin," <i>J. Biol. Chem.</i> 259:53-56 (1985).	
		HUANG, et al., "Membrane glycoprotein IV (CD36) is physically associated with the Fyn, Lyn, and Yes protein-tyrosine kinases in human platelets," <i>Proc Natl. Acad. Sci. USA</i> 88(17):7844-7848 (1991).	

Examiner's	Date	· · · · · · · · · · · · · · · · · · ·
Signature	Considered	

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number 2 See attached Kinds of U.S. Patent Documents. 3 Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). 4 For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. 5 Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. Applicant to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you require to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

6

of

MIT 6620 CIP

Sheet

Paperwork Reduction Act of 1895, no persons are required to respond to a collection of int	ormation unless it contains a valid OMB control number	, atom and Trademark Office. U.S. DEFAITMENT OF COMME
Substitute for form 1449A/PTO		
		Complete if Known
INFORMATION DISCLOSURE	Application Number	08/765,108
STATEMENT BY APPLICANT	Filing Date	June 19, 1995
OTATEMENT DI ATTEMAN	First Named Inventor	Monty Krieger, et al.
(use as many sheets as necessary)	Group Art Unit	1812
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Examiner Name	J. Ulm

Attorney Docket Number

12

		OTHER ART NON PATENT LITERATURE DOCUMENTS				
Examiner's Initials*						
		* HUNT, et al., "Chacterization and sequence of a mouse hsp70 gene and its expression in mouse cell lines," <i>Gene</i> 87:199-204 (1990).				
		* ITAKURA, et al., "Synthesis and use of synthetic oligonucleotides," Ann. Rev. Biochem. 53:323-356 (1984).				
_		* INABA, et al., "Macrophage Colony-stimulating Factor Regulates Both Activities of Neural and Acidic Cholesteryl Ester Hydrolases in Human Monocyte-derived Macrophages," <i>J. Clin. Invest.</i> 92(2):750-757 (1993).				
		* KABAT, et al., Sequences of Proteins of Immunological-Interest, 4th Ed. (U.S. Dept. Health and Human Services, Bethesda, MD, 1987).				
		* KINGSLEY, et al., "Receptor-mediated endocytosis of low density lipoprotein: Somatic cell mutants define multiple genes required for express of surface-receptor activity," <i>Proc. Natl. Acad. Sci. USA</i> 81:5454-5458 (1984).				
		* KINGSLEY, et al., "DNA-Mediated Transfer of a Human Gene Required for Low-Density Lipoprotein Receptor Expression and for Multiple Golgi Processing Pathways," <i>Mol. Cell. Biol.</i> 6:2734-2737 (1986).				
	7	KOBZIK, "Lung Macrophage Uptake of Unopsonized Environmental Particles," J. of Immunol. 155(1):367-376 (1995).				
		* KODAMA, et al., "Type I macrophage scavenger receptor contains o-helical and collagen-like coiled coils," <i>Nature</i> 343:531-535 (1990).				
		* KRIEGER, "Molecular Flypaper and atherosclerosis: structure of the macrophage scavenger receptor," <i>Trends Biochem. Sci.</i> 17:14 146 (1992).	-			
		KRIEGER, et al., Cold Spring Harbor Symposia on Quantitative Biology Vol. LVII, 605-609 (1992).				
		KRIEGER, "Molecular Flypaper, Host Defense, and Atherosclerosis," J. Biol. Chem. 268(7):4569-4572 (1993).				

Examiner's	Date	
Signature	Considered	

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>&</sup>lt;sup>1</sup> Unique citation designation number <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant to place a check mark here if English language Translation is attachèd.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you require to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Sheet

			PIC	ทอสต	188 (IN-88	
Approved	for use	through	10/31/99.	OMB	0651-0031	
nt and Trademark	Office	U.S. DE	PARTMENT	UE C	OMMERCE	

Paperwork Reduction Act of 1895, no persons are required to respond to a collection of information unless it contains a valid DMB control number Substitute for form 1449A/PTO

12

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

of

Application Number	08/765,108	
Filing Date	June 19, 1995	
First Named Inventor	Monty Krieger, et al.	
Group Art Unit	1812	
Examiner Name	J. Ulm	

MIT 6620 CIP

Complete if Known

		OTHER ART NON PATENT LITERATURE DOCUMENTS	
		Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the	
Examiner's	Cite	item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s),	
Initials*	No.1	publisher, cit and/or country where published	T²
		* KRIEGER, et al., "Structures and Functions of Multiligand Lipoprotein Receptors: Macrophage Scavenger Receptors and LDL Receptor-Related Protein (LRP)," <i>J. Annu. Rev. Biochem.</i> 63:601-637 (1994).	
		* KRIEGER, et al., "Reconstituted Low Density Lipoprotein," J. Supra. Struct. 10:467-478 (1979).	
		* KRIEGER, et al., "Isolation of Chinese Hamster Cell Mutants Defective in the Receptor-mediated Endocytosis of Low Density Lipoprotein," <i>J. Mol. Biol.</i> 150:167-184 (1981).	
		* KRIEGER, et al., "Amphotericin B selection of mutant Chinese hamster-cells with defects in the receptor-mediated endocytosis of low density lipoprotein and cholesterol biosynthesis," <i>Proc. Natl. Acad. Sci. USA</i> 80:5607-5611 (1983).	
		* KRIEGER, "Contemplation of Mutations in the LDL Pathway of Receptor-Mediated Endocytosis by Cocultivation of LDL Receptor-Defective Hamster Cell Mutants," Cell 33:413-422 (1983).	
		* KRIEGER, "Reconstitution of the Hydrophobic Core of Low-Density Lipoprotein," Meth. Enzymol. 128:608-613 (1986).	
		* LEWIS, et al., "Automated site-directed drug design: the concept of spacer skeletons for primary structure generation," <i>Proc. R. Soc. Lond.</i> 236, 125-140 and 141-162 (1989).	
		* LOWRY, et al. "Protein Measurement with the Folin Phenol Reagent," J. Biol. Chem. 193:265-275 (1951).	
		LUOMA, et al., "Expression of $a_2$ -Macroglobuli Receptor/Low Density Lipoprotein Receptor-related Protein and Scavenger Receptor in Human Atherosclerotic Lesions," <i>J. Clin. Inv.</i> 93(5):2014-2021 (1994).	
		* MAHER, et al., "Inhibition of DNA Binding Proteins by Oligonucleotide-Directed Triple Helix Formation," Science 245:725-730 (1989).	
-		* MATSUMOTO, et al., "Human macrophage scavenger receptors: Primary structure expression, and localization in atherosclerotic lesions," <i>Proc. Natl. Acad. Sci. USA</i> 87:9133-9137 (1990).	

**Attorney Docket Number** 

Examiner's	Date	
Signature	Considered	

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number 2 See attached Kinds of U.S. Patent Documents. 3 Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). 4 For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. 5 Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. 6 Applicant to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you require to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

8

of

Sheet

MIT 6620 CIP

	PTO/SB/08A (10-98	
Approved for use	through 10/31/99. OMB 0651-0031	
ad Tandamark Attack		

the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number Substitute for form 1449A/PTO Complete if Known INFORMATION DISCLOSURE **Application Number** 08/765,108 Filing Date June 19, 1995 STATEMENT BY APPLICANT First Named Inventor Monty Krieger, et al. Group Art Unit 1812 (use as many sheets as necessary) **Examiner Name** J. Ulm

**Attorney Docket Number** 

12

		OTHER ART NON PATENT LITERATURE DOCUMENTS	_
Examiner's Initials*	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, cit and/or country where published	T²
		* McKINALY, et al., "Rational design of antiviral agents," Annu. Rev. Pharmacol. Toxiciol. 29:111-122 (1989).	
		* MERRIFIELD, "Solid Phase Peptide Synthesis I. The Synthesis of a Tetrapeptide," J. Am. Chem. Soc. 85:2149-2154 (1964).	
		* MOESTRUP, et al., Distribution of the $a_2$ -macroglobulin receptor/low density lipoprotein receptor-related protein in human tissues," Cell Tissue Res. 269:375-382 (1992).	
		* MULLIGAN, "The Basic Science of Gene Therapy;" Science-260:926-932 (1993).	
		* NAGELKERKE, et al., "In Vivo and in Vitro Uptake and Degradation of Acetylated Low Density Lipoprotein by Rat Liver Endothelial, Kupffer, and Parenchymal Cells," <i>J. Biol. Chem.</i> 258:12221-12227 (1983).	
		* NAITO, et al., "Tissue Distribution Intracellular Localization, and In Vitro Expression of Bovine Macrophage Scavenger Receptors," Am. J. Pathol. 139:1411-1423 (1991).	
		* NARANG, et al., in "Chemical Synthesis of Deoxyoligonucleotides by the Modified Triester Method," <i>Methods Enzymol.</i> 65:610-620 (1980).	
		* OCKENHOUSE, et al., Activation of Monocytes and Platelets by Monoclonal Antibodies or Malaria-infected Erythocytes Binding to the CD36 Surface Receptor in vitro," <i>J. Clin. Invest.</i> 84:468-475 (1989).	
		* OFFENSPERGER, et. al., "In vivo inhibition of duck hepatitis B virus replication and gene expression by phosphorothicate modified antisense oligodeoxynucleotides," <i>EMBO J.</i> 12:1257-1262 (1993).	
		* OQUENDO, et al., "CD36 Directly Mediates Cytoadherence of Plasmodium falciparium Parasitized Erythocites," Cell 58:95-101 (1989).	
		* ORSON, et al., "Oligonucleotide inhibition of IL2Ra mRNA transcriptionby promoter region collinear triplex formation in lymphocytes," <i>Nucl. Acids Res.</i> 19:3435-3441 (1991).	

Examiner's	· · · · · · · · · · · · · · · · · · ·	Date	
Signature	· · · · · · · · · · · · · · · · · · ·	Considered	

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number 2 See attached Kinds of U.S. Patent Documents. 3 Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). 4 For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. 5 Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. 6 Applicant to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you require to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

PTO/SB/DBA (10-98 Approved for use through 10/31/99, OMB 0651-0031 Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Please type a plus sign (+) inside this box  $\rightarrow$   $\bigcirc$   $\bigcirc$ 

r the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

c	Substitute fo	r form 14	49A/PTO			
<u></u>				Co	omplete if Known	
S	INFOR	<b>OITAN</b>	N DISCLOSURE	Application Number	08/765,108	
P	STATE	MENT	BY APPLICANT	Filing Date	June 19, 1995	
70	017112		D1 7411 L1074111	First Named Inventor	Monty Krieger, et al.	
(use as many sheets as necessary)				Group Art Unit	1812	
				Examiner Name	J. Ulm	
Sheet	9	of	12	Attorney Docket Number	MIT 6620 CIP	

		OTHER ART NON PATENT LITERATURE DOCUMENTS	
xaminer's Initials*	Cite No.¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, cit and/or country where published	T <sup>2</sup>
		* OTTNAD, et al., "Differentiation of binding sites on reconstituted hepatic scavenger receptors using oxidized low-density lipoprotein," <i>Biochem J.</i> 281:745-751 (1992).	
		* PEARSON, et al., "Expression cloning of dSR-CI, a class C macrophage-specific scavenger receptor from <i>Drosphila melanogaster</i> ," Proc. Natl. Acad. Sci. USA 92:4056-4060 (1995).	
		* PENMAN, et al., The Type I and Type II Bovine Scavenger Receptors Expressed in Chinese Hamster Ovary Cells are Trimeric Proteins with Collagenous Triple Helical Domains Comprising Noncovalently Associated Monomers and Cys <sup>83</sup> -Disulfide-linked Dimers," J. <u>Biol. Chem.</u> 266:23985-23993 (1991).	n
		* PERRY, et al., "The Use of 3D Modeling Databases-for Identifying Structure Activity Relationships," QSAR: Quantitative Structure- Activity Relationships in Drug Design pp. 189-193 (Alan R. Liss, Inc. 1989).	
		* PITAS, et al., "Uptake of Chemically Modified Low Density Lipoproteins In Vivo Is Mediated by Specific Endothelial Cells," <i>J. Cell. Biol.</i> 100:103-117 (1985).	
		* POSTEL, et al., "Evidence that a triplex-forming oligodeoxyribonucleotide binds to the c-myc promoter in HeLa cells, thereby reducing c-myc mRNA levels," Proc. Natl. Acad. Sci. USA 88: 8227-8231 (1991).	
		* PREDESCU, et al., "Binding and Transcytosis of Glycoalbumin by the Microvascular Endothelium of the Nature Myocardium: Evidence that Glycoalbumin Behaves as a Bifunctional Ligand," <u>J. Cell Biol.</u> 107:1729-1738 (1988).	
		* RIGOTTI, et al., "The Class B Scavenger Receptors SR-BI and CD36 are Receptors for Anionic Phospholipids," <i>J. Biol. Chem.</i> 270:1-4 (1995).	Ì
		RIGOTTI, et al., "The Class B Scavenger Receptors SR-BI and CD36 Are Receptors for Anionic Phospholipids," <i>J. Biol. Chem.</i> 270(27):16221-16224 (1995).	
		* RIPKA, "Computers picture the perfect drug," New Scientist 54-57 (June 16, 1988).	
		* ROHRER, et al., "Coiled-coil fibrous domains mediate ligand binding by macrophage scavenger receptor type II," <i>Nature</i> 343:570-572 (1990).	

Examiner's	Date	
Signature	Considered	

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEF 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>&</sup>lt;sup>1</sup> Unique citation designation number <sup>2</sup> See attached Kinds of U.S. Patent Documents <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you require to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

10

Sheet

	PTO/SB/08A (10-98
Approved for use through	10/31/99. OMB 0651-0031

the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number Substitute for form 1449A/PTO

12

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

of

**Application Number** 08/765,108 June 19, 1995 Filing Date First Named Inventor Monty Krieger, et al. 1812 **Group Art Unit** Examiner Name J. Ulm

MIT 6620 CIP

Complete if Known

		OTHER ART NON PATENT LITERATURE DOCUMENTS	
		Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the	
Examiner's	Cite	item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s),	
Initials*	No.1	publisher, cit and/or country where published	T²
		* ROUVINEN, et al., "Computer-aided Drug Design," Acta Pharmaceutica Fennica 97:159-166 (1988).	
		SAMBROOK, Fritsch, and Maniatis. Molecular Cloning: A Laboratory Manual, Second Edition, Cold Spring Harbor, NY, Cold Spring Harbor Laboratory Press (1989) (Table of Contents only).	
-		* SARIN et al., "Inhibition of acquired immunodeficiency syndrome virus by oligodeoxynucleoside methylphosphonates," <i>Proc. Natl. Acad.</i> .Sci. USA 85:7448-7451 (1989).	
		* SAVILL, et al., "Macrophage Vitronectin Receptor CD36 and Thrombospondin-Gooperate in Recognition of Neutrophlis Undergoing Programmed Cell Death," Chest 99:65-7S (suppl) (1991).	
λ		SCHAUB, et al., "Recombinant Human Macrophage Colony-Stimulating Factor Reduces Plasma Cholesterol and Carrageenee Granuloma Foam Cell Formation in Watanabe Heritable Hyperlipidemic Rabbits," <i>Arterioscler. Thromb.</i> 14(1):70-76 (1994).	
		* SCHNITZER, et al., "Preferential Interaction of Albumin-binding Proteins, gp30 and gp18, with Conformationally Modified Albumins," J. Biol. Chem. 267:24544-24553 (1992).	
		* SCRIVER, et al., Eds., in The Metabolic and Molecular Bases of Inherited Disease, Vol. 11, 7th Ed., pp. 2033; 2060-2061, New York, McGraw Hill.	
		* SEGE, et al., "Characterization of a Family of Gamma-Ray-Induced CHO Mutants Demonstrates that the IdIA Locus is Diploid and Encodes the Low-Density Lipoprotein Receptor," <i>Mol. Cell. Biol.</i> 6:3268-3277 (1986).	
		* SEGE, et al., "Expression and regulation of human low-density lipoprotein receptors in Chinese hamster ovary cells," <i>Nature</i> 307:742-745 (1984).	
		* SHAW, et al., "Modified deoxyoligonucleotides stable to exonuclease degradation in serum," <i>Nucleic Acids Res</i> 19:747-750 (1991).	
		* SPARROW, et al., "A Macrophage Receptor That Recognizes Oxidized Low Density Lipoprotein but Not Acetylated Low Density Lipoprotein," J. Biol. Chem. 264:2599-2604 (1989).	

Attorney Docket Number

Examiner's	Date	
Signature	Considered	<u> </u>

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number 2 See attached Kinds of U.S. Patent Documents. 3 Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). 4 For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. 5 Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. 9 Applicant to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you require to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

	enwork Perhiption Act of	1005 no marcone	are required to respond to a collection of in-	ormation unless it contains a valid OMB control number	Patent and Trademark Office: U.S. DEPARTMENT OF COMMER
507	Substitute fo				mplete if Known
=	INFOR	MATIO	N DISCLOSURE	Application Number	08/765,108
Ω	STATEMENT BY APPLICANT			Filing Date	June 19, 1995
	OIAIL		DI AII LIOANI	First Named Inventor	Monty Krieger, et al.
7 1	(use a	s many si	neets as necessary)	Group Art Unit	1812
,			,,	Examiner Name	J. Ulm
tear	11	Of	12	Attorney Docket Number	MIT 6620 CIP

		OTHER ART NON PATENT LITERATURE DOCUMENTS	
		Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the	
Examiner's	Cite	item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s),	
Initials*	No.1	publisher, cit and/or country where published	T <sup>2</sup>
		* STANTON, et al., "A Macrophage Fe Receptor for IgG Is Also a Receptor for Oxidized Low Density Lipoprotein," <i>J. Biol. Chem.</i> 267:22446-22451 (1992).	
		* STEINBERG, et al., "BEYOND CHOLESTEROL: Modifications of Low-Density Lipoprotein That Increase Its Atherogenicity," N. Engl. J. Med. 320:915-924 (1989).	
		* STENT, G.S., et al., <u>Molecular Genetics</u> , pp. 213-219 (1971).	
	-	SWIDA, et al., "Glue protein genes in <i>Drosophila virilis</i> : their organization, developmental control of transcription and specific mRNA	
		degradation," Development 108(2):269-280 (1990).	-
	•	* SZOSTAK, "In Vitro Genetics," <i>TIBS</i> 19:89-93 (1992).	
	<u></u>	* TANDON, et al., "Identification of Glycoprotein IV (CD36) as a Primary Receptor for Platelet-Collagen Adhesion," <i>J. Biol. Chem.</i> 264:7576-7583 (1989).	
·		* VANDEPOL, et al., "Clinical Applications of Recombinant Macrophage-Colony Stimulating Factor (rhM-CSF)," Biotech Therap. 2:231-239 (1991).	
		* VEGA, et al., "Cloning Sequences and Expression of a cDNA Encoding Rat LIMP II, a Novel 74-kDa Lysosomal Membrane Protein Related to the Surface Adhesion Protein CD36," <i>J. Biol. Chem.</i> 266:16818-16824 (1991).	
		* VIA, et al., '"Identification and density dependent regulation of the AC-LDL Receptor in normal and transformed bovine aortic endothelial cells (BAEC)," <i>The FASEB J.</i> 6:A371, #2135 (1992).	
		* VILLASCHI, et al., "Binding and Uptake of Native and Glycosylated Albumin-Gold Complexes in Perfused Rat Lungs," <i>Microvasc. Res.</i> 32:190-199 (1986).	
		* WICKSTROM, et al., "Human promyelocytic leukemia HL-60 cell proliferation and c-myc protein expression are inhibited by an antisense pentadecadeoxynucleotide targeted against c-myc mRNA," Proc. Natl. Acad. Sci. USA 85:1028-1032 (1988).	

Examiner's	Date	
Signature	Considered	

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609: Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number 2 See attached Kinds of U.S. Patent Documents. 3 Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). 4 For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you require to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

•	PTO	SB/08
T		

0
্তা
0
14
<u> </u>
$\widetilde{\mathbf{\infty}}$

Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number Substitute for form 1449A/PTO Complete if Known INFORMATION DISCLOSURE **Application Number** 08/765,108 Filing Date June 19, 1995 STATEMENT BY APPLICANT First Named Inventor Monty Krieger, et al. Group Art Unit 1812 (use as many sheets as necessary) **Examiner Name** J. Ulm 12 Attorney Docket Number MIT 6620 CIP Sheet of

		OTHER ART NON PATENT LITERATURE DOCUMENTS			
Examiner's Initials *	Cite No.'				
* YOUNG, et al., "Triple helix formation inhibits transcription elongation in vitro," <i>Proc. Natl. Acad. Sci. USA</i> 88:10023-(1991).					
·		* ZAMECNIK, et al., "Inhibition of replication and expression of human T-cell lymphotropic virus type III in cultured cells by exogenous systhenic oligonucleotides complementary to viral RNA," <i>Proc. Natl. Acad. Sci.</i> 83:4143-4146 (1986).			
_		* ZAMECNIK, et al., "Inhibition of Rous sarcoma virus replication and cell transformation by a specific oligodeoxynucleotide," <i>Proc. Natl. Acad. Sci. USA</i> 75.280-284 (1978).			
		* ZHU, et al., "Systemic Gene Expression After intravenous-DNA-Delivery into Adult Mice," Science 261:209-211 (1993).			
		· · · · · · · · · · · · · · · · · · ·			

Examiner's	Date	
Signature	Considered	

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>&</sup>lt;sup>1</sup> Unique citation designation number <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you require to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.